WEIGHT INDICATOR

3590E-AF08

WHEEL WEIGHING – AXLE WEIGHING

USER MANUAL

E-AF08_02_10.10_EN_U

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1. INTRODUCTION

This manual was created to help you install and learn all about the functional possibilities of the purchased indicator.

The instrument is suitable for use in various weighing environments.
Not only does it have all the normal features of high-precision scales, but it also gives you the possibility to work in specific environments due to the functioning modes contained in the software implemented in the FLASH MEMORY on the internal board; This makes the instrument extremely flexible and it can be used in many different industrial applications linked to weighing. The double numerical and interactive alphanumerical display, the alphanumerical and function keyboard, allow the operator an easy and immediate use and provide the microcontroller with DATA ENTRY functions in addition to the normal weighing functions. The input/output allows the instrument to control various external devices, to receive external commands, control a printer and communicate with a personal computer or to be inserted in a network of weight indicators controlled by a PC.

⚠ WARNING ⚠

Please note that this instrument is covered by a warranty and **MUST NOT BE OPENED BY THE USER** for any reason whatsoever. Any attempt to repair or modify the unit exposes the user to the risk of electric shock and will invalidate the entire warranty.
If any problems are found in the unit or with the system in which it is used, the fact must be communicated to the manufacturer or the dealer from whom it was purchased.
In any case, **DISCONNECT THE POWER SUPPLY** before taking any action.

With the 6V rechargeable battery option, it has to be completely recharged (12 hours) in the first installation of the instrument; we RECOMMEND disconnecting the battery if the instrument is not going to be used for more than 30 days. In order to avoid the deterioration of the rechargeable battery:
In standard conditions:
- never leave the battery partially or completely uncharged; at least once a week recharge it completely .
In case the instrument is not used for a long period, one needs to:
- completely recharge the battery before the system is switched off for the last time.
- recharge completely every 3 months

Do not pour liquids on the weight indicator.

Do not use solvents to clean the weight indicator.

Do not expose the instrument to direct sunlight nor place it near heat sources.

Place or anchor the weight indicator and platform on a non-vibrating base.

All the connections of the indicator have to be made respecting
the rules applicable in the zone and in the installing environment.

Everything not expressly described in this manual has to be considered as improper use of the equipment.

Read carefully and apply what is described in section 3.

Do not install in any area where there is a risk of explosion.

The crossed-out wheeled bin on the product means that at the product end of life, it must be taken to separate collection or to the reseller when a new equivalent type of equipment is purchased. The adequate differentiated refuse collection in having the product recycled, helps to avoid possible negative effects on the environment and health and supports the recycling of the materials of which the equipment is made. The unlawful disposal of the product by the user will entail fines foreseen by the current regulations.

NOTE FOR THE USER

The message **(TECH.MAN.REF.)**, will often appear in this manual; this refers to the Technical Manual, which may obtained by the reseller.

2. MAIN TECHNICAL SPECIFICATIONS

POWER SUPPLY	- 12 Vdc (8 ÷ 24 Vdc with I/O expansion board connected), with internal 100 ÷ 240 Vac (50÷60 Hz) / 12 Vdc adapter - 6 Vdc from rechargeable built-in battery, serial upon request
MAXIMUM POWER	16 VA.
OPERATING TEMPERATURE	From -10 to + 40 °C. (14 to 104 °F), with constant temperature.
CONVERTER	24 bit Sigma Delta
CONVERSION SPEED	up to 200 conv./sec. with automatic selection
RANGE OF INPUT SIGNAL	0,6 mV/V - 3,2 mV/V.
MINIMUM VOLTAGE PER DIVISION	0.3 μV (approved instrument); 0.03 μV (non-approved instrument).
TYPICAL INTEGRATION TIME	40 msec.
AUTOMATIC ZERO DETECTION	Only in gross mode, programmable at +/- ¼, ½, 1, 2 divisions.
ZERO RANGE	Configurable up to +/- 50% of max load capacity.
AUTOZERO AT START-UP	Configurable up to +/- 50% of max capacity.
LOAD CELL POWER SUPPLY	5Vdc ± 5%, 120mA (max 8 350-Ohm cells).
LOAD CELL CONNECTIONS	6 wires with Remote Sense.
DISPLAY DIVISIONS	10000e, 3 x 3000e for legal weighing, expandable up to 800.000 for internal use (with **minimum** signal coming from a 1,6mV/V cell).
DISPLAYS	- Red, high-luminosity LED indicators, with six digits (h 13 mm) - Back lit graphic 160x32 dot LCD
TARE FUNCTION	Subtractive, possible on all capacities.
MEMORY/DATABASE	Database of 1000 dates (5 descriptions of 20 characters).
SIGNALS	16 status LEDs. Graphic icons on LCD display.
KEYBOARD	Impermeable polycarbonate keyboard with 24 multifunction (IP65 protection degree), with membrane keys with audible and tactile feedback.
PARAMETER SETUP	Calibration and linearity (up to 8 points), fully digital and programmable from the keyboard
CLOCK/DATE	Standard feature, with buffer RAM.
PROTECTIVE CASE	ABS console (IP 65 protection).
SERIAL OUTPUTS	- 2 input/output RS232 ports on terminal board/ amp connector. - 1 input/output RS485 port on terminal board or RS232 on amp connector.
INPUTS AND OUTPUTS	- 2 optoisolated inputs (photo couplers), 12Vdc – 24Vdc, 20mA max (expandable to 8 with an optional board). - 4 outputs (optoisolated photomosfets), 48Vac / 0.15A, 60Vdc / 0.15A, (expandable to 16 with an optional board) - Management of PC keyboard, barcode reader
OPTIONAL INPUTS AND OUTPUTS	- expansion 6 optoisolated inputs (optoisolated photo couplers), 12Vdc – 24Vdc, 20mA max. - - expansion 12 outputs (optoisolated photomosfets), 48Vac / 0.15A, 60Vdc / 0.15A. 16-bit analogue output configurable from keyboard (full-scale value; zero scale value and minimum value) from 0 to 10 Vdc or from 0 to 20mA; the maximum resistance applicable on the output current is 350 Ohm and the minimum resistance applicable on the output voltage is 10 kohm.

THE INSTRUMENT'S DANGEROUS VOLTAGE PARTS AND THE PARTS THE USER CAN ACCESS HAVE BEEN ELECTRICALLY INSULATED.

2.1 ACCESSORIES AVAILABLE

On the indicator it is possible to implement internal and external modules used to increase interfacing possibilities.(For example, the number of usable outputs various types of printers, in order to have a report of the weighs made, or a giant display in order to better see the weigh operations. Also, one can connect a PC in order to simply program the instrument through Dinitools™, or in order to have a complete management of the weighs.
Contact the reseller for the list of the available hardware and software accessories.

2.2 SYMBOLS USED

Below are the symbols used:

- **in the manual to recall the reader's attention**
- **on the instrument to recall the user's attention**

ATTENTION! Only qualified personnel must perform this operation

CE CONFORMITY

IDENTIFIES THE CLASS OF PRECISION

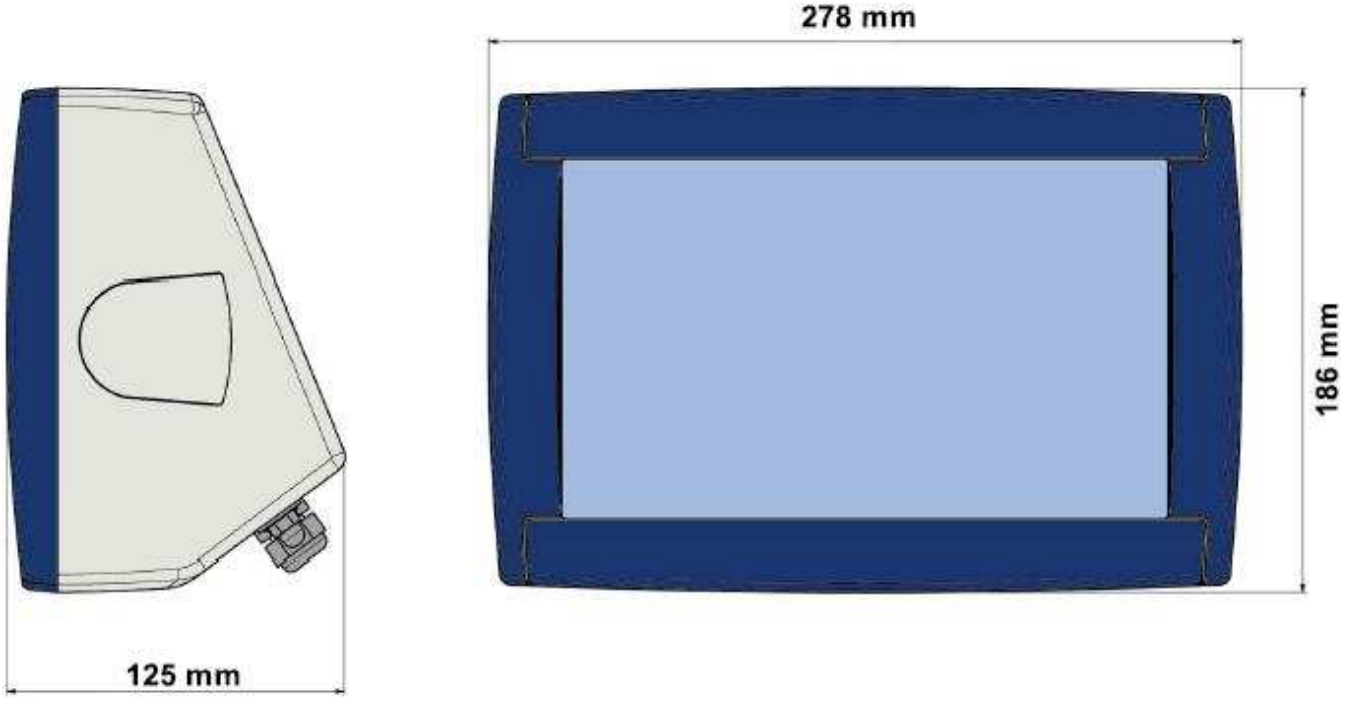
"TECH.MAN.REF."means that an advanced function is being described (therefore for the technical personnel) which will be further explained in the corresponding technical manual.

3. INSTALLATION

3.1 CASE AND DIMENSIONS

The indicator has an IP65 ABS case, whose external dimensions are shown in the Figure. It can be simply put on a table or fixed to a shelf or column available on request.
NOTE: If the identification plate is supplied separately (therefore not attached to the indicator), it is advisable to attach it to the indicator, in order to be able to identify the instrument.

ABS MODEL



3.2 POWER SUPPLY & START UP

The indicator is powered with 12Vdc voltage (8 ÷ 24 Vdc with I/O expansion board connected), through a built-in adapter, which converts the 100 ÷ 240Vac, 50÷60Hz mains voltage, or 6 Vdc, from the serial optional battery. To connect it to the power mains, the safety regulations must be observed, including the use of a "clean" line without disturbances or interference caused by other electronic equipment.

The battery inside the indicator lasts about 25 hours (without the expansion board, with 1-cell platform) and a recharging time of about 12 hours.

BATTERY FEATURES	
Material	LEAD
Power	4,5 Ah
Voltage	6 V

THE BATTERY MUST BE SUPPLIED DIRECTLY FROM THE MANUFACTURER.

TO POWER the instrument through the 240 Vac mains, or **TO RECHARGE** the battery, insert the plug and the adapter to the 240 Vac mains socket..

Do not connect other equipment to the same socket as the one that the adapter is in.
Do not step on or crush the power supply cable

TO TURN ON the instrument press the C key until the 6 status indicator LEDS turn on; then release.
The LCD display shows:
- Initially a welcome message (settable in the TECHNICAL SET-UP, **<< LoGo >>** StEP, **TECH.MAN.REF**) while the instrument carries out a series of checking and preheating self tests.
- E-AF08 - XX" name of the installed software, in which XX identifies the software language.
- XX.YY is the software version installed.
- "EXECUTION AUTOZERO" the instrument carries out the "autozero at start-up" function on all active scales:

if a weight is detected within the percentile set in the **<< Auto-0 >>** step (**TECH.MAN.REF.**), it is cleared; if the weight is not within this tolerance:
- with a non approved instrument, the display shows the weight after a few instants,
- with an approved instrument "ZErO X" is shown continuously on the LED display, (in wich X show the number of scale where zero function is done) until the weight does not re-enter within this tolerance.

The auto zero function at start-up may be disabled in the set-up environment (only with non approved instrument); see **SEtuP >> ConFiG >> PArAm. >> Auto-0 (TECH.MAN.REF.)**

By pressing the **2ndF** key for an instant while the version is shown in the display, the indicator will shown in this order:
01.01 in which 01 indicates the instrument type, 01 indicates the metrological software version.
XX.YY.ZZ is the installed software version.
HH is the installed hardware version (08).
LEGAL FOR TRADE or HIGH RESOLUTION if the instrument is APPROVED or UNAPPROVED, respectively.
9.XXXXX is the the g gravity value (only with APPROVED instrument).

TO TURN OFF the instrument keep the C key pressed until the "- OFF -" message appears on the LED display and " *** POWER OFF *** " on the LCD display.

3.3 TURNING ON PRINTER IN ENERGY SAVING MODE

In a system where the indicator is connected to a printer, both are battery powered, the printer is normally maintained in STAND-BY and powered only when a printout is needed. This function reduces the energy absorbed by the battery when the printer is not being used.
If, in this configuration, one should power the printer to change the paper and other maintenance jobs, one needs to press the **ENTER** and **0** keys one after the other, during the weighing: the LED display shows **Prn - on,** and the printer is kept on. Press any key to exit from this condition.

4. FRONT PANEL KEYS AND DISPLAYS

4.1 FUNCTION OF THE KEYS

In the following section, and later on in the manual, the keys' functioning is described in accordance to how these are configured by factory.
It is possible to customise the functionality of the keys through the **<< F.KEYS >>** step.

C/DEL	- Turns the instrument on/off - If pressed for an instant, it clears the tare value. - Exits the parameter without confirming and saving the modifications. - In the numeric input phase, it quickly clears the present value
TARE/ZERO	- If pressed for an instant it carries out the tare function. See section 7, for the specific tare function, depending on the selected totalisation type (wheel weighing/axle weighing). - If pressed at length, when viewing one scale, it clears the relative gross weight, if it's within the percentage configured in the **<< 0.PErC >>** step.
Fn/ENTER	- In the alphanumeric input phase, it confirms the entry made. - In the menu it allows to enter a step or to confirm a parameter inside a step.
2nd F	- If pressed together with the other keys, it allows carrying out a specific function. (see section 4.2) - In the **<< F.Keys >>** step, if pressed for an instant, the list of the available functions appear and it is possible to choose one of them.
./HELP	- In the calculator mode or when edits printer format, if pressed, the display shows some help descriptions. - In the numeric or alphanumeric input phase, it enters, in this order, the following characters: **. , ; : # < > \ | " % & / ( ) = ? ^ ' [ ] { }**; - HELP function, see section 4.1.4.

F1	- In the **<< F.Keys >>** step, if pressed for an instant, it is possible to set the default key functions. - In the numeric or alphanumeric input phase, it allows to copy entered characters. - If pressed for an instant it allows entering the database. - If pressed at length one locks and unlocks the instrument's keyboard (except the **C** key)
F2	- In the numeric or alphanumeric input phase, it allows to stick with copied characters. - If pressed for an instant it allows to insert the coordinates of the active scale. - If pressed at length the weight visualization function with sensitivity x 10 is enabled.
F3	- If pressed for an instant it allows to insert the number of weighs after which it will be printed and the partial total is cleared. If the value to be inserted is equal to 0, the automatic printing is disabled. - If pressed at length one can adjust the date and time of the instrument.
F4	- If pressed for an instant it allows filling in the free texts, if configured. - If pressed at length one enters the instrument's diagnostics menu.
F5	- Commands the data transmission to the printer serial port. - If pressed at length one locks/unlocks the tare.
F6	- If pressed for an instant it allows to totalize the weight on the weighing system. - Allow to scroll forwards in the menu steps or in the parameters inside a step. - In the numeric or alphanumeric input phase, it decrements the blinking digit.
F7	- If pressed for an instant, it allows to enter the combination of scales, for which one wants to display the sum (see section 5.4). - Allow to scroll backwards in the menu steps or in the parameters inside a step. - In the numeric or alphanumeric input phase, it increments the blinking digit.
F8	- If pressed for an instant it allows printing and resetting the partial total. - In the numeric or alphanumeric input phase, it selects the digit to be modified from right to left.
F9	- If pressed for an instant it allows printing and resetting the general total. - In the numeric or alphanumeric input phase, it selects the digit to be modified from left to right.
F10	- If pressed for an instant, it executes the printing and the zeroing of the large total. - In the numeric or alphanumeric input phase, introduces a space between two characters.

NUMERIC KEYBOARD	- Entry of digits or characters. - During the weighing, these enter a numeric value with which it's possible to: 1) Set the tare value, by pressing then the **TARE** key (see section 7.2). 2) To add or to subtract to the current tare the result of the operation between two values enterable with the keyboard (See the **15.2 CALCULATOR** section).

4.1.1 "2ndF" KEY: SECOND FUNCTION OF THE KEYS

In the weighing phase, by pressing the **2ndF** key together with another key, it's possible to execute various functions (continue reading the manual for the details of the functions):

2ndF	**F2**	Allows to select the number of active scales
2ndF	**F3**	Allows to select the type of totalisation (wheel weighing/axle weighing, see section 13)
2ndF	**F5**	Repetition of the last printout made
2ndF	**F6**	Prints sample list
2ndF	**F7**	Clears last sample(see section 13.3.2 for wheel weighing totalisation type; section 13.4.2 for axle weighing totalisation type)
2ndF	**F8**	Net/Gross weight conversion on LED display (see section 15.5)
2ndF	**F9**	Modification of what is viewed on the LCD display (see section 4.2.4)
2ndF	**F10**	Sets the lower totalisation threshold
2ndF	**C**	Causes display of metric information of the current scale (see section 9).
2ndF	**TARE/ZERO**	Cyclical scale zero on the active scales (see section 6.2)
2ndF	**0**	Allows switching the visualization on the sum weight of active scales
2ndF	**1**	Allows switching the visualization on the weight of scale 1
2ndF	**2**	Allows switching the visualization on the weight of scale 2
2ndF	**3**	Allows switching the visualization on the weight of scale 3
2ndF	**4**	Allows switching the visualization on the weight of scale 4

4.1.2 ENTERING ALPHANUMERIC TEXT

It might be necessary, while the weighing system is working, to enter some alphanumerical texts such as descriptions, alphanumerical messages (operator, number of lot, customer, etc.).
To enter the characters one uses the **0** to **9** keys.
By pressing one of these keys a few times, the characters shown on the key (and other special characters) will be shown on the LCD display: initially the first letter in the bottom left will appear, and then the other characters towards the right.
After digiting a character, the blinking cursor, after a few instants, advances automatically of a position.

Function of the keys

F5 switches the writing mode from "numeric" ***(nuM)*** to "characters" ***(ChAr)***.
In the ***nuM*** mode one enters just the numbers, while in the ***ChAr*** mode one can enter all the characters of a key.

C If pressed for an instant, it cancels the written characters: first the characters that follow the cursor are cancelled; than those that precede it, one at a time.
If pressed at length, it deletes all entered characters.
With empty text, it exits the entry phase without confirming.

SHIFT It enters a space in the middle of a text.

. If pressed a few times it allows entering the following characters: **. , ; : # < > \ | " % & / ( ) = ? ^ ' [ ] { }**

0 in "characters" mode ***(ChAr),*** by pressing once **a space is entered;** by pressing twice it enters the "0" character**;**

◀ ▶ moves the blinking cursor to the left or to the right.

▲ ▼ scrolls in one sense or the other the list of all the enterable characters (0, 1…9, A, B…Y, Z)

Examples:
- To enter the letter "B" one should press the "2" key twice in the ***ChAr*** mode.
- To enter the number "3" one should press the "3" key four times (in the ***ChAr*** mode) or press the F5 key (one passes to the ***nuM*** mode) and press the "3" key once***.***
-

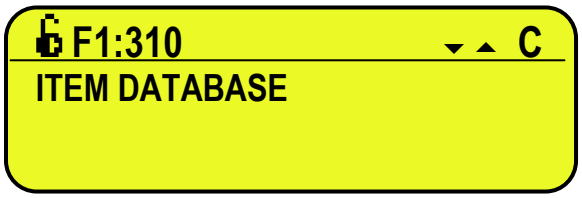
4.1.3 DISABLING THE KEYBOARD

It is possible to disable the all keyboard functions (except the **C** key for turning on and off), in order to avoid undesired pressings of the scale keys:
- **To lock the keyboard**, press at length the **F1** key: the display shows the "LoCK" message for a few instants. Now the keyboard is LOCKED: if one presses a key, the display shows for a few instants the "PRESS AT LENGTH F1 FOR UNLOCKING" message.
- **To unlock the keyboard**, press again at length, the **F1** key: the display shows the "unLoCk" message for a few instants.

NOTE: It's possible to lock all keys individually in a permanent way through the TECHNICAL SET-UP, **TECH.MAN.REF.**

4.1.4 HELP MENU

By pressing at length the **HELP** key it is possible to access a menu containing the list of keys with the relative function, and status (locked or unlocked) indication.



The display shows:

- in the upper part: the key, followed by the code of the linked function in the **<< F.Keys >>** step, and a symbol Indicating whether the key is unlocked ( ) or locked ( ) in the **<< EN.KEYS >>** step.

- in the lower part: the description of the linked function.

Scroll the list with the arrow keys ▲ ▼, press the **C** key to exit.

4.1.5 INDICATOR CONNECTED TO PC KEYBOARD

It's possible to connect a PC keyboard (optional), used to emulate the functions of the keys of the indicator.

The keys are managed in the following way:

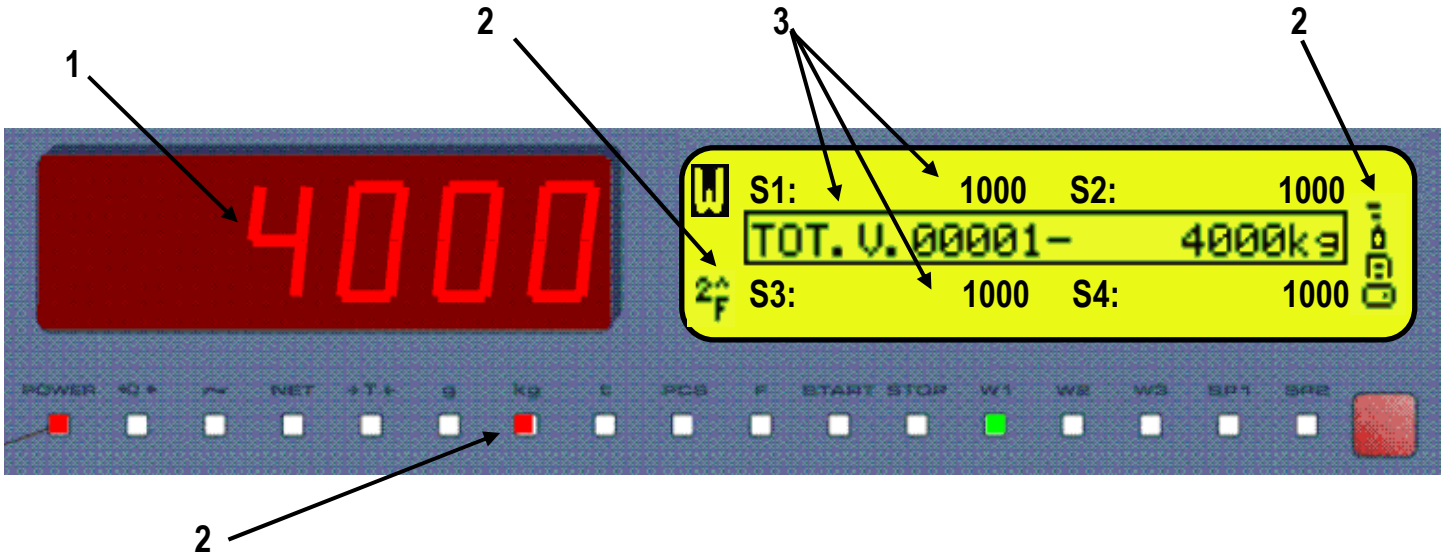
KEYBOARD	KEY OR FUNCTION EMULATED
Esc	-**C** key. - If pressed at start-up, it allows entering in the technical set-up. In the alphanumeric input, it deletes all entered characters.
← e Canc	-**C** key. - If pressed at start-up, it allows entering in the technical set-up. In the alphanumeric input, it cancels first the characters which follow the cursor, then the ones which precede it, one at a time.
Enter ↵	-**Fn** key. - Confirms the entered value. - Enters the displayed step
Numeric and alphanumeric keys, SHIFT and CAPS LOCK	- Quick entry of a numeric and alphanumeric string: through the CAPS/LOCK or SHIFT key it is possible to switch from the capital letters to the lower case letters, and vice versa, or enter the second character corresponding to the key (for example ", %, &, /, ?)
Cursor keys ⬆ ⬇	- Scroll the parameters - Increase or decrease the blinking digit while entering a value.
Cursor keys ⬅ ➡	- When entering a value or an alphanumeric string, it scrolls the digits to the right or to the left.
F1, F2….F10	F1,F2….F10 keys.
F11	**2ndF** key
F12	**TARE** key.

NOTE: through the remote keyboard, it's not possible to carry out the functions made by pressing the keys at length.

4.2 FUNCTION DISPLAY

During the weighing the displays are subdivided mainly in 3 sections, shown in the figure below:

1) SUM WEIGHT / SELECTED SCALE WEIGHT (see section 5)
2) STATUS INDICATORS (led pilot lights and graphic symbols)
3) SCALES' DATES / WEIGHT (see section 4.2.4)

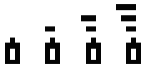


4.2.1 STATUS INDICATORS

LED	FUNCTION
POWER	Indicates the type of indicator power supply: - red pilot light: through built-in power adapter; - green pilot light: through battery (charged battery); - pilot light off: through battery (discharged battery).
→0←	Indicates that the weight detected by the weighing system is near zero, including the interval of 1/4 +1/4 of the scale's division.
~	I Indicates that the weight is unstable.
NET	Indicates that the weight shown by the LED display is a NET WEIGHT.
→T←	Indicates that a tare value has been acquired or entered.
g	Indicates that the unit of measure in use is the gram.
kg	Indicates that the unit of measure in use is the kilogram.
t	Indicates that the unit of measure in use is the ton.
PCS	Not used in the application
F	Not used in the application
START	Not used in the application
STOP	Not used in the application

W1 W2 W3	See section 8
SP1	Not used in the application
SP2	Not used in the application

SYMBOLS' FUNCTIONS ON THE LCD DISPLAY

SYMBOL	FUNCTION
	Indicates the type of active totalisation (see section 13)
	The weight detected by the weighing system is near the zero, included within the interval of –1/4 and +1/4 of the scale division.
	The weight is unstable.
	Unit of measure in use: ton, kilogram, gram, pounds. Icon viewable only when the DIAGNOSTICS PERIPHERAL UNITS function is active, see section 15.1.
	Active scale (see section 5). Icon viewable only when the DIAGNOSTICS PERIPHERAL UNITS function is active, see section 15.1.
	Respectively indicates the status of an output as non active or active. Icon viewable only when the DIAGNOSTICS PERIPHERAL UNITS function is active, see section 15.1.
	Respectively indicates the status of an input as non active or active . Icon viewable only when the DIAGNOSTICS PERIPHERAL UNITS function is active, see section 15.1.
	Serial communication with external device. Icon viewable only when the DIAGNOSTICS PERIPHERAL UNITS function is active, see section 15.1.
	Battery charge level: see section 4.2.2.
	Active during the configuration of the date and time.
	Locked keyboard, see section 4.1.3
	In the HELP menu these respectively indicate whether a key is unlocked or locked in the SETUP level (**<< En.KEYS >>** step, see section 4.1.4.
	The **Fn** key has been pressed.
	The **2nd F** key has been pressed.
	Transmission of the data to the printer serial port under way.
	Inside the step, these respectively indicate an unselected or selected parameter.
	Active calculator function, see section 15.2 CALCULATOR.

4.2.2 BATTERY LEVEL INDICATION

The indicator is able to recognise whether it is powered by mains or by battery, and indicate its charge level; to enable the battery level indication, one should configure the **<< bt.LEVEL >>** step.
The charge level is shown during weighing by the battery symbol.

- : charged battery.

- : partially charged battery.

- : discharged battery: connect the indicator to the mains for recharging the battery (if provided for by that model) or replacing the battery.

The indicator shows also when the battery is being recharged (if provided for the model):

RECHARGE PHASE: …

COMPLETED RECHARGE:

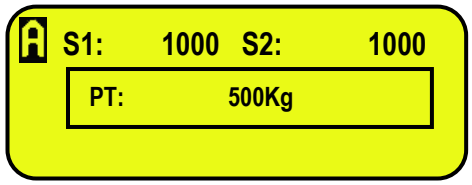
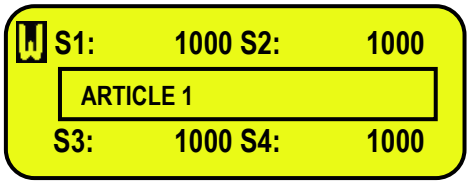
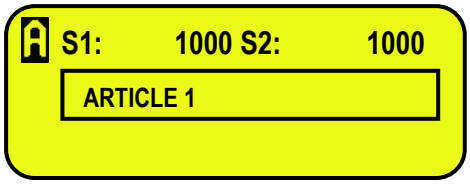
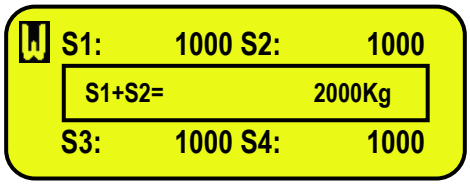
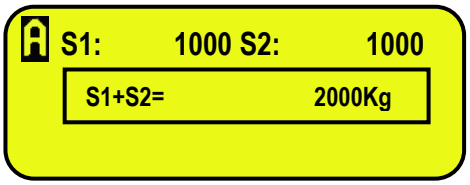
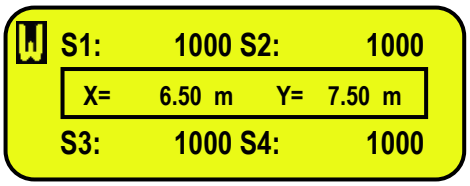
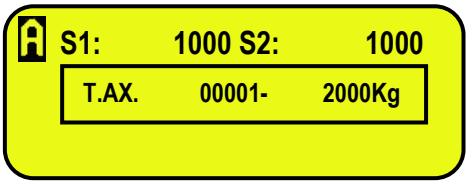
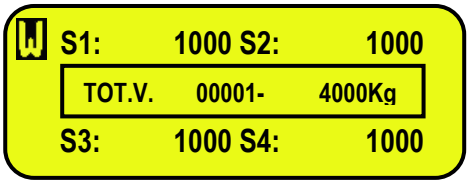
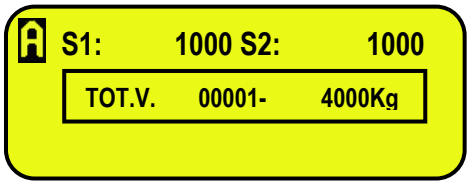
NOTES:
- During the recharge the instrument can be normally used.
- The instrument automatically turns off when the voltage goes below the minimum level.

4.2.3 "TILT" DEVICE

The TILT is a device which inhibits the indicator's weighing system and starts working when the instrument's inclination is greater than 2% for the pallet truck application or 5% for application on lift trucks.
The "tilt" message is shown on the display, alternate to the weight value.
The activation of the tilt alarm has a delay of about three seconds from the detection of the exceeding inclination.
See the electrical connection scheme (**TECH.MAN.REF.**) for the connection of the device.

4.2.4 DISPLAYED DATA

The data is displayed on up to three lines; their visualisation depends on the weighing type and the number of active scales. By pressing in sequence the **2nd F** and **F9** keys, one will scroll through the following visualisations in this order:

NUM	VISUALIZATION	WHEEL WEIGHING	AXLE WEIGHING
0	- Active scales - Active tare (PT)		
1	- Active scales - First description data selected		
2	- Active scales - Sum weight of the scale combination (see section 5.4)		
3	- Active scales and Barycentre coordinates - Active scales and number of weighed axles, and accumulated total gross weight (when one is finished with the vehicle, the tare is subtracted from the total, if it is present)		
4	- Active scales - Number of vehicles weighed and the total net weight accumulated		

By linking the function to a direct key, see the **<< F.KEYS >>** step, it is possible to quickly recall a visualisation by digiting, with the numeric keyboard, the relative number and pressing the key linked to the function.

Notes:

- Default Visualisation: 0.

5. SCALE MANAGEMENT

At start-up, the indicator is active on the “SUM” function, in other words, the LED display shows the weight sum of all active scales and the LCD display shows the weight of each active scale.

5.1 SET THE NUMBER OF ACTIVE SCALES

Press the **2ndF** and the **F2** keys**,** in order to set the number of active scales that are being weighed.

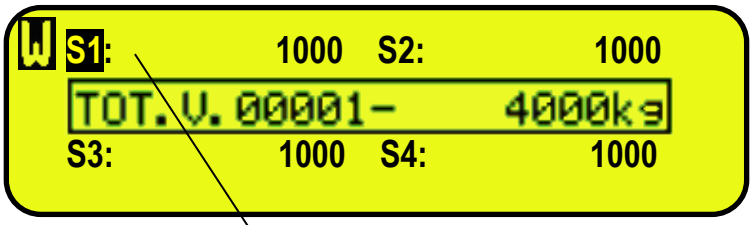
5.2 SELECTION OF SINGLE SCALE/SUM FUNCTION

In order for the LED display to show the current weight on the single scale, or the sum function, press the **2ndF** key followed by a key from 0 to 4:

0 >> “SUM” function.
1 >> Selection of scale number 1.
2 >> Selection of scale number 2.
3 >> Selection of scale number 3.
4 >> Selection of scale number 4.

For example with the **2ndF** and the **1** keys, the words “SCALE 1” appear on the LED display for a few seconds followed by the value of the Weight on the selected weighing machine.

The selected scale, is highlighted on the LCD display of the instrument:



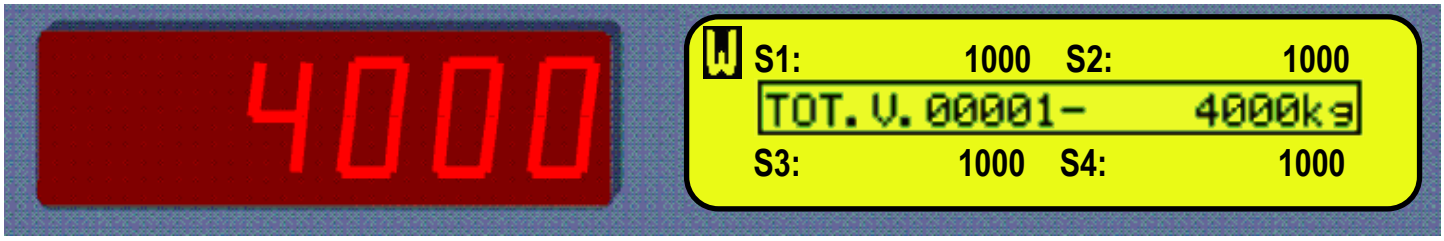
Selected scale:
S1 = scale 1;
Selected scales:
S1 = scale 1; S2 = scale 2; S3 = scale 3; S4 = scale 4;

.

5.3 "SUM" FUNCTION

"SUM" function allows you to perform weighing operations on each scale or on their **sum**.

The display will show:



Sum weight of all scales

Weight of each single scale

NOTES

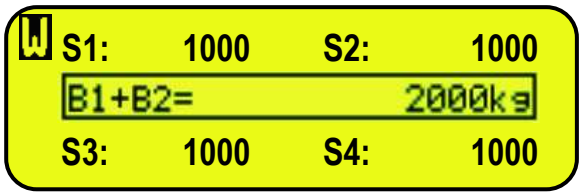
- One can select every time the single scale by pressing in sequence **2ndF** and **1** or **2,3,4** keys (see section 5.2).
- The total capacity/division corresponds to the sum of each scale capacity/division.
- The overload signalling always corresponds to each scale capacity + 9e.
- The maximum insertable tare value is always equal to the sum of each scale capacity.
- The tare value is the same for all the scales and is only considered on the sum weight.
- The tare function is disabled (on each scale too).
- At start-up the indicator places itself on "weight sum" status of each active scale.

5.4 SUM OF THE SELECTED SCALES

The instrument allows to display the sum of the scales that one wants. Through this function it's possible to insert the combination of scales, of which the sum will be displayed on the LCD display.

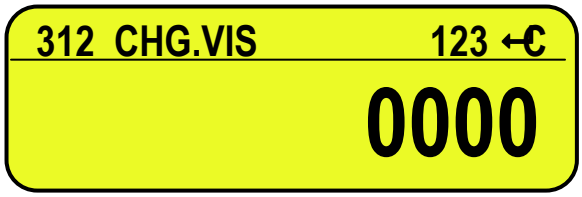
EXAMPLE: if one has a system of 4 platforms, and one wants to display the sum of scales 1 and 2 (front axle)

- Press keys 1 and 2 one after the other
- Press the **F7** key
- The LCD display will show:



or:

- Press the **F7** key, the LCD display shows:



- Press keys 1 and 2 one after the other
- Press **ENTER**

In this way the sum weight of any of the scales will be displayed on the LCD display.

6. SCALE ZERO FUNCTIONS

6.1 OPERATION OF ZERO ON THE SINGLE SCALE

Select the scale using the numerical keyboard, using the **2ndF** and the **1**, **2**, **3** and **4** keys.
Keep the **ZERO** key pressed; the message "Zero" appears on the LED display after which:

- If the weight on the scale is included in the percentage configured in the **<< 0.PErC >>** (**RIF.MAN.T.**) step, it is zeroed;
- If the weight is not within this range, it will not be cleared and an error sound is emitted.

In the end the indicator automatically returns to the display of the weight present on the scale.

6.2 CYCLE OF ZERO ON ALL THE CONNECTED SCALES

If the automatic zero has been set at the start-up (in the **SEtuP >> ConFig. >> ParaM >> Auto 0** step of the setup, **TECH.MAN.REF.)**, by pressing the combination of the **2ndF** and **ZERO** keys, a zero cycle is executed in all the current scales.

7. TARE FUNCTIONS

The tare functions depend on the selected totalisation type.

7.1 TARE FUNCTION ON "WHEEL WEIGHING" MODE

By pressing the **TARE** key one tares any weight which is on the scales; the LED display shows **"tArE"** for an instant and then 0 (net weight); the **NET** and **→T←** LED turn on; the stored tare value is shown on the LCD display, see section 4.2.4 "DISPLAYED DATA".

NOTE:
The LCD display shows the gross weight value and the stored tare value, identified with "PT" (Preset Tare).
In the printout, the tare is identified with "PT" (Preset Tare).

NOTE:
The tare function in the wheel weight mode, will be carried out only if:

- the weight shown on the LED display is the sum weight of the active scales.
- the weight present on the scales, is of AT LEAST FIVE DIVISIONS AND IS STABLE (**~** instability led is off) and VALID (In other words the OVERLOAD condition must not be created).

7.2 TARE FUNCTION IN "AXLE WEIGHING" MODE

Unlike in the "wheel weighing" mode, the tare value inserted in the axle weighing mode is not subratcted from the displayed weight value, but from the sum total of the totalized axles, in other words, the partial total. By inserting a tare value the **NET** and **→T←** pilot lights will not be managed since the LED display, will continue showing the sum weight of the active scales.
It will be possible to view the stored tare value on the LCD display, see section 4.2.4 "DISPLAYED DATA".

To enter the tare value with the keyboard type the value (including the decimal point) and press **TARE**.The **C** key quickly zeros the current value.

The LCD display shows the gross weight value and the stored tare value, identified with "PT" (Preset Tare).

NOTES
In the "axle weighing" functioning mode,in any case, the LED display shows the gross weight also in the presence of a tare.
The LCD display shows the gross weight value and the stored tare value, identified with "PT" (Preset Tare).
In the printout, the tare is always identified with "PT" (Preset Tare).
A new operation automatically cancels and substitutes the previous one, only if the weighing of vehicle is done.

NOTE:
The tare function in the axle weighing mode, will be carried out only if:

- the weight shown on the LED display is the sum weight of the active scales.

- the weight present on the scales, is of AT LEAST FIVE DIVISIONS AND IS STABLE (~ instability led is off) and VALID (In other words the OVERLOAD condition must not be created).

7.3 MANUAL CALCULATED TARE

With the "CALCULATOR" function it is possible to add or to subtract to the current tare the result of the operation between two values enterable with the keyboard.
For the functioning specifications see the **15.2 CALCULATOR** section.

7.4 TARE CANCELLATION

To cancel the tare, press the **TARE** key with **unloaded** platform (only in the wheel weighing mode)
- Press in sequence the numeric 0 key and **TARE.**
- Press the **C** key in both cases.

NOTES:
The tare will be cleared only if the weight shown on LED display, is the sum weight of the active scales.
The tare in the axle weighing mode will be cleared only if the weighing of the vehicle is finished (reset of the partial total).

7.5 LOCKED/UNLOCKED/DISABLED TARE

Normally, when a tare value is inserted, this value remains stored also after the printing and resetting of the partial total (LOCKED TARE); therefore it remains active also for the following weighs.
It is possible to choose that the tare value cancels itself automatically with each partial total printout (UNLOCKED TARE).
By pressing at length the **F5** key it is possible to quickly lock/unlock the tare:

LED DISPLAY	**MEANING**
LoCK	LOCKED TARE
unLoCK	UNLOCKED TARE

Furthermore it is possible to carry out this setting or disable all the tare operations, in the "TARE LOCKED/UNLOCKED" **SEtuP >> tArE t** parameter of the TECHNICAL SETUP, **TECH.MAN.REF.**

7.6 LIMITATION OF THE TARE FUNCTIONS

For specific requirements, it is possible to limit the functions of the tare **with approved instrument**; by setting "YES" in the **SEtuP** >> **d.SALE** step of the SET-UP environment **(TECH.MAN.REF.):**
- the SEMIAUTOMATIC TARE can not be modified with a manual or calculated tare, or one from database.
- the manual or calculated tare, or one from database must be entered or modified only with UNLOADED scale.

With approved instrument, the **SEtuP** >> **d.SALE** step is not displayed. Read only.

7.7 TARE EXECUTION MODE OR DISABLING OF THE TARE

It's possible to select the tare execution mode, through the setting of the **F.ModE >> totAL >> tArE** step **(TECH.MAN.REF.):**
- By setting "diSAbL" one disables all the tare operations;
- By setting "Lock" or "Unlock", all the tare operations described in section 7.5 are enabled.

8. MULTIRANGE AND MULTIDIVISION FUNCTION

The multi range functioning allows to subdivide the scale capacity in two or three ranges, each which is up to 3000 divisions, improving in this way the first range division in the dual range and the first two ranges in the triple range.
For example it is possible to approve the weighing system with:

- A single range: 6 kg capacity and 2 g division (3000 div.).
- Dual range: 6 /3 kg capacity and 2/1 g division (3000 + 3000 div.).
- Triple range: 15 / 6 / 3 kg capacity and 5/2/1 g division (3000 + 3000 + 3000 div.).

NOTE: For the approval of the weighing system in dual and triple ranges the cell must have better technical features in comparison to the cell used for the approval in a single range.
This functioning is indicated by the turning on of the LED which identify the range in which one is working: **W1** first range, **W2** second range, **W3** third range (if configured); by passing to the **W2** range, the second range division is enabled; by passing to the **W3** range, the third range division is enabled, at this point the **W1** first scale division is restored **only by passing the gross zero of the scale**.
The multidivisional functioning is similar to multirange, but with the difference that a range division is enabled as soon as one enters in its range interval (in other words **without passing by the scale zero**).

NOTE: The selection of the range number with multirange and multidivisional functioning is made during the indicator calibration **(TECH.MAN.REF.).**

9. DISPLAY OF METRIC DATA (inFO)

The indicator is fitted with a function named “INFO”, thanks to which it is possible to view the configuration metric data:

- First range capacity, first range minimum weigh, first range division.
- Second range capacity, second range minimum weigh, second range division.
- Third range capacity, third range minimum weigh, third range division.

NOTES:

- The minimum weigh corresponds to 20 net weight divisions.
- The data of the second and third range appear only if actually configured.

To display the metric data:

- Press in sequence the **2ndF** and **C** keys
- The “METROLOGIC INFORMATION” is displayed
- the display will show the number of the scale, the type of displayed data and its value.
- Press the **F6** key to quickly scroll the data frontwards
- Press the **F7** key to quickly scroll the previous data backwards.
- Press the **C** key to quickly return to weighing.

10. FILLING IN THE INPUT TEXT

The indicator offers the possibility of using 15 CONFIGURABLE INPUT TEXTS (for example LOT, OPERATOR, SHIFT, etc.), each made up of 16 heading characters and 32 content characters.
When entered in the TECHNICAL SET-UP (see **F.ModE** >> **tXt** "Input text configuration" parameter, **TECH.MAN.REF.**), these may be printed later on, if programmed in the printouts; or these may be used as a reminder.

To manually fill in the input texts it is possible to proceed in two ways:

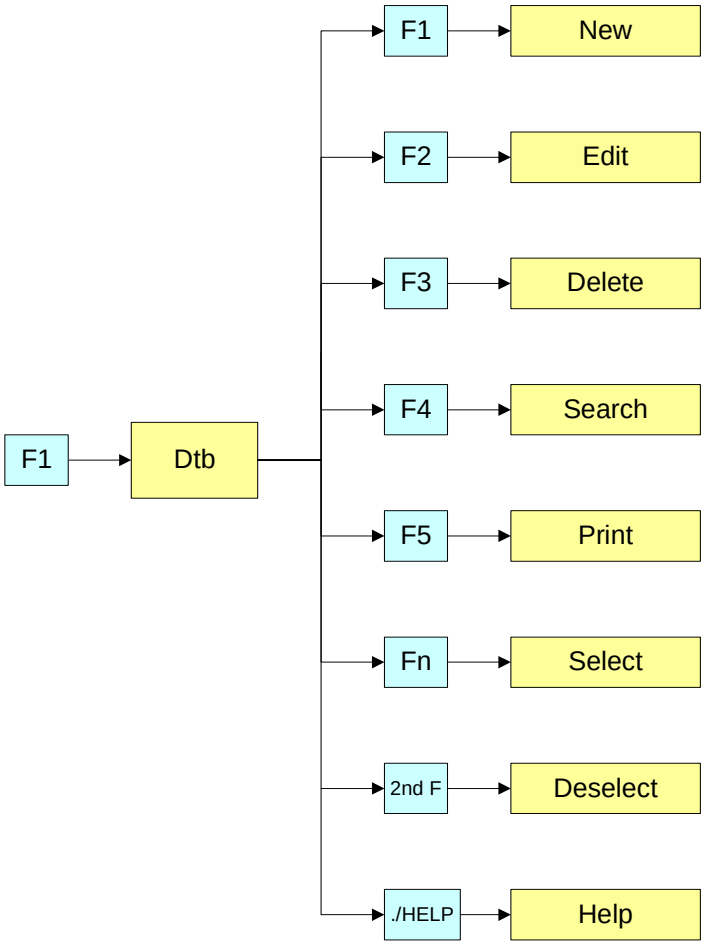
1) **If one knows the memory storage position** (from 0 to 14) of the text to be modified, type the number, followed by the **F4** key: now enter the text and confirm with **ENTER** (the indicator returns to the weighing phase).

2) By pressing for an instant the **F4** key, one accesses the complete list of the texts, for example:
   - The LED display shows "in. XX", in which XX is the index of the free text (from 0 to 14) when the LCD display shows THE HEADING on the first line of the input text (or "Empty…" if empty).
   - Use the arrow ▲ ▼ keys to select the text to be filled in and press **ENTER:** now one can enter the alphanumeric text in the second line of the LCD display, (see chapter 4.1.2 ENTERING ALPHANUMERIC TEXT).
   - Press **ENTER** to store and pass on to the following stored TEXT; by confirming the last entered text one returns automatically to the weigh functioning; it is possible to exit also with the **C** key while in the text selection modification phase.

NOTE:
- The entered texts remain in storage until these are substituted or cancelled.
- If no text has been configured, the pressing of the **F4** key has no effect.
- Through specific print macros, it's possible to automatically cancel the contents of all the texts, right after their printing **(TECH.MAN.REF.)**.
- For information on the entry of the alphanumeric texts, see section "4.1.3 ENTRY OF ALPHANUMERIC TEXT".

11. DATABASE

The indicator has a database with 1000 items having each five descriptions of 20 characters; each item is linked to a storage number, from 0 to 999.
The selected item is shown on the LCD display during the weighing operations (see section 4.2.4 “DISPLAYED DATA”), and can be printed through the relative print block.



11.1 ENTERING ITEMS

1) Press the **F1** key to enter data in the database.
   NOTE: we advise to leave empty the memory storage 0, since it is used for the temporary entry (see section “11.6 TEMPORARY ENTRY”).
2) Select the eventual desired data:
   - using the ▲ ▼ arrow keys
   - with the keyboard by typing the storage item number).
3) Press **F1** to insert the data in the desired position, or with the first free position, if an already occupied position has been selected.
4) One should fill in the following fields (only the necessary ones are requested); press **ENTER** to confirm:
   - **" DESCRIPTION 1"**: first description line (up to 20 characters);
   - **" DESCRIPTION 2"**: second description line (up to 20 characters);
   - **" DESCRIPTION 3"**: third description line (up to 20 characters);
   - **" DESCRIPTION 4"**: fourth description line (up to 20 characters);
   - **" DESCRIPTION 5"**: fifth description line (up to 20 characters);

11.2 MODIFICATION OF DATA

1) Press the **F1** key to enter data in the database.
2) Select the data to be modified:
   - by using the arrow keys ▲ ▼
   - by typing the storage item nr. with the keyboard; (the LCD display shows the first corresponding DESCRIPTION line).
   - by searching the first description (see section 11.7)
3) Press **F2**.
4) Select the field to be modified by using the arrow keys ▲ ▼ and press **ENTER**.
5) Modify the value and press **ENTER** to confirm.
6) Restart from point 4) to modify other fields, or press **C ,**to return to the list of storages.
7) Restart from point 2) to modify other storage or press **C** to return to the weighing phase.

11.3 CANCELLATION OF DATA

1) Press the **F1** key to enter data in the database.
2) Select the data to be cancelled:
   - by using the arrow keys ▲ ▼
   - by typing the storage item nr. with the keyboard (the LCD display shows the first corresponding DESCRIPTION line).
   - by searching the first description (see section 11.7)
3) Press **F3**.
4) The indicator requests a further confirmation: press **ENTER** to confirm or another key to cancel.
5) Press the **C** key to return to weighing.

11.4 PRINTING DATA

1) Press the **F1** key to enter data in the database.
2) Once inside the database menu, press the **F5** key. The LCD display shows the message "**PRINT?**": confirm with the **ENTER** key to print the entire database which shows all the relative fields for each stored data.

11.5 DATA SELECTION/UNSELECTION

To select a stored item, one can proceed in two ways:

1) Enter the database item number using the numeric keyboard (if different than the 000 storage, see the following section) and press **F1:** if data is stored in the recalled position, the indicator display shows the message "ITEM XXX SELECTED" (in which XXX indicates the number of the selected item) and activates it.
2) Press for an instant the **F1** key to enter in the article database:
   - Select the item using the arrow keys ▲ ▼ (or with the keyboard type the item number; the LCD display shows the first corresponding DESCRIPTION line).
   - Press **ENTER** to activate the item.
3) Through function **311**, combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), it is possible alphabetically search data by carrying out the immediate selection through the **ENTER** key.

To unselect a selected item for an instant, press the **F1** key to enter data in the database and press **2nd F.**
Before unselecting, a confirmation is requested: press **ENTER** to confirm or another key to cancel.

11.6 ENTRY, MODIFICATION AND QUICK SELECTION OF ITEM 000

It's possible to directly enter a temporary memory storage in order to avoid the filling in of the database:

1) Press in sequence the **0** (NUMERIC) and **F1.**
2) The indicator allows directly filling in the memory storage 000; seeing section "11.1.1 ENTRY" for the data to be filled in.
3) Upon confirmation with **ENTER** of the last data, the memory storage will automatically be selected.

NOTES

- Upon each temporary entry, the 000 memory storage will be overwritten.

11.7 ALPHABETICAL RESEARCH

1) Press the **F1** key to access the database.
2) Press the **F4** key: enter the desired characters in the first description of all the data.
3) Select the desired storage item in the result list using the ▲ ▼ arrow keys and press **ENTER**.
4) Carry out one of the operations described in the previous sections.

11.8 HELP

By pressing **./HELP** key inside the archive, the list of command that can be used and their meaning is shown. The list scroll down automatically, by pressing arrow keys (F6 ▼ e F7 ▲) is possible to proceed manually.

12. DATABASE ACCESS PASSWORD

In the SETUP (F. Mode>> dtb.PWd parameter, TECH.MAN.REF.) one can set a password for access to the databases. A password will be required only when one wants to insert, modify or delete an element of the file; for a moment the LCD display shows the message USER-PRESS KEY; afterwards, it will be no longer possible to make changes to the database.

To access the complete menu

- Press any key DURING THE VISUALISATION OF THE “USER-PRESS KEY”: the instrument requests the entry of the password (a number will appear).
- Enter the password and confirm with ENTER.
- If one does not know the password, one should give the random number to the manufacturer, who will give a password valid ONLY FOR THAT RANDOM NUMBER.

13. WEIGHING AND TOTALISATION PROCEDURES

13.1 TOTALISATION TYPES

The 3590E weight indicator, in the AF08 version allows to weigh vehicles with 2 or more wheels, through two different totalisation modes; by pressing the **2ndF** and **F3** keys one after the other, it is possible to select the following totalisation modes:

WHEEL WEIGHING: functioning mode which allows to know the vehicle weight through a single weigh; the system is made up of a number of platforms equal to the number of resting points of the vehicle that is to be weighed (wheels, axles, etc).The display simultaneously shows the weight of the single scales, the total weight (sum) and the barycentre coordinates (if configured).

AXLE WEIGHING: functioning mode which allows to weigh a vehicle through the acquisition and totalisation of each single axle. While weighing, the instrument simultaneously shows the weight of the single scales and the accmulated axle total.

In both functioning modes, the weight of each vehicle can be printed and stored, for subsequent verifications. Furthermore there are 2 total levels, automatically increased at the end of each weighing operation of the vehicle, which may be cleared and printed independently from each other.

13.2 "WHEEL WEIGH"TOTALISATION TYPE

In order to weigh a vehicle in the "wheel weigh" mode, carry out the following operations:

1) Carry out a cycle of zero (see chapter 6.2)
2) Place the vehicle on the scale and wait for the weight stability in order to read the weight on the display.
3) **F6** key for executing the totalisation of the vehicle and the relative weight data is printed.
4) Take the vehicle off the scale.

13.2.1 UPDATING TOTALS

Every time one carries out a totalisation, the partial total is updated with the total weight of the vehicle, while the general total and grand total are increased of the current partial total.

13.2.2 CANCELLING LAST WEIGH

If a wrong totalisation has been made, it is possible to cancel the last executed weigh.
Press the **2ndF** and the **F7** keys; the message "CANCEL LAST WEIGHT" is displayed: press ENTER to cancel from all the TOTALS the last totalisation made and decrease of one the TOTALISATION PROGRESSIVE or press the C key to exit without making modifications.

13.2.3 ENTRY OF COORDINATES FOR CALCULATING THE BARYCENTRE (OR CENTRE OF GRAVITY)

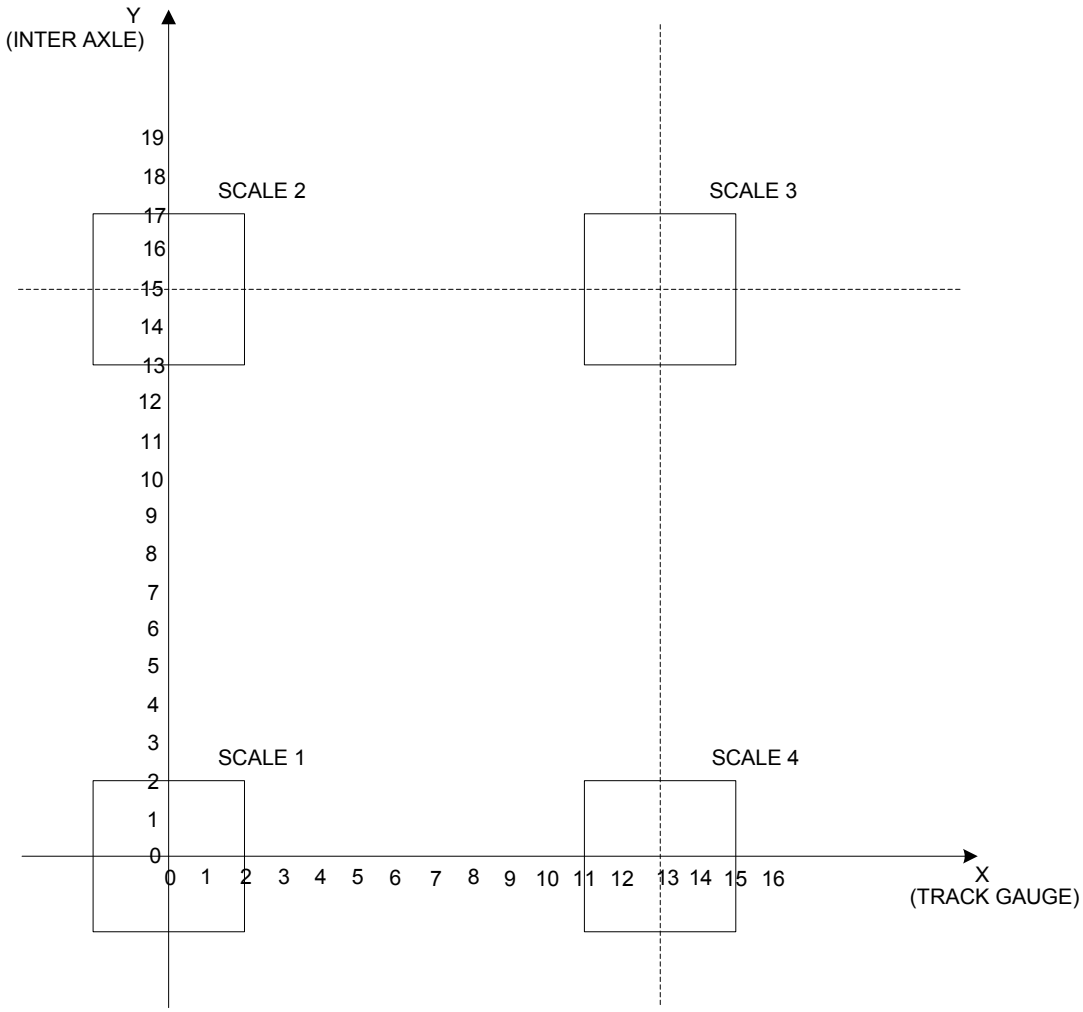
The instrument is able to calculate and print, the barycentre coordinates of the vehicle which one is weighing; to carry out this operation, one must enter the coordinates of the centre of scales which one is using (which correspond also the ones of the vehicle wheels), in the unit of measure set in the TECHNICAL SET-UP >> **FModE** >> **LEn.uM.** (default is in meters).By pressing the **F2** key, the coordinates of the scales present are requested. The number of requested decimals when entering the coordinates is set in the TECHNICAL SET-UP>> **FModE** >> **LEn.dEC.** (default is 2 decimal places).

Therefore, by pressing **F2**, the following parameters appear on the display (when 4 scales are connected):

PARAMETER	MEANING	VALUE TO BE ENTERED
X.WhEL.1	x coordinate scale 1	ALWAYS = 0
Y.WhEL.1	y coordinate scale 1	ALWAYS = 0
X.WhEL.2	x coordinate scale 2	ALWAYS = 0
Y.WhEL.2	y coordinate scale 2	VEHICLE INTER AXLE
X.WhEL.3	x coordinate scale 3	VEHICLE TRACK GAUGE
Y.WhEL.3	y coordinate scale 3	VEHICLE INTER AXLE
X.WhEL.4	x coordinate scale 4	VEHICLE TRACK GAUGE
Y.WhEL.4	y coordinate scale 4	ALWAYS = 0

Through the F5 key it is possible print the barycentre coordinates of the vehicle which one is weighing.

EXAMPLE: to calculate the barycentre of a 4-wheel vehicle with a weighing system having the scales arranged as shown in the figure below, one must position the vehicle on the scales, press the **F2** key and enter the following parameters:



SCALE 1: X.WhEL.1: 000,00
Y.WhEL.1: 000,00

SCALE 2: X.WhEL.2: 000,00
Y.WhEL.2: 015,00

SCALE 3: X.WhEL.3: 013,00
Y.WhEL.3: 015,00

SCALE 4: X.WhEL.4: 013,00
Y.WhEL.4: 000,00

13.3 “AXLE WEIGH” TOTALISATION TYPE

To carry out the weighing of a vehicle in the “axle weigh” mode, carry out the following operations:

1) Carry out a cycle of zero
2) Put the first axle of the vehicle onto the scales
3) Press **F6**: the weight of the vehicle is totalized, and if enabled, the weight data of the single scales and the total vehicle is printed.
4) Take the vehicle off the scales
5) Put the next axle onto the scales
6) Press **F6**: the weight of the next axle is totalized and if enabled, the configured weight data of the single scales and the vehicle total is printed.
7) Take the vehicle off the scales
8) Repeat operations 5, 6, and 7 for all the remaining axles.
9) Press the **F8** key: the “ZEROS TOTAL PARTIAL” message is displayed on the LCD display: press **ENTER** for printing, and reset the total weight of the vehicle (obtained from the sum of the axles) or press the C key for exiting without changes.

13.3.1 UPDATING TOTALS

Every time one carries out a totalisation, the partial total is increased of the weight of each totalized axle.
After weighing the vehicle, the general total and the grand total are increased of the current partial total.

13.3.2 CANCELLING LAST WEIGH

If a wrong totalisation has been made, it is possible to cancel the executed weigh.
Press the **2ndF** and **F7** keys; the "CANCEL LAST WEIGH?" message is displayed: press ENTER to cancel the TOTAL PARTIAL of the last executed totalisation. In case the vehicle has already been completely weighed and therefore the totals have been increased with the vehicle weight, the cancellation deletes the total weight of the last vehicle from the GENERAL TOTAL and from the GRAND TOTAL, and restores the tare of the vehicle, if it has been configured earlier.Press the C key to exit without making modifications.

13.3.3 ENTRY OF AXLE NUMBER FOR AUTOMATIC PRINTING OF PARTIAL TOTAL

By pressing the **F3** keys: the display displays the Aut.Prn step; in this step one sets the number of axles of the vehicle which will be weighed.
The instrument will automatically print the total weight of the vehicle, as soon as all the axles set in this step have been weighed; furthermore, the total will automatically be zeroed.
Refer to the preceding paragraph for a description of the weighing procedures.
For example, if one needs to weigh a tractor with a trailer having a total of 4 axles, one sets 4 in this step; after having weighed 4 axles, the vehicle total is automatically calculated, printed and zeroed; and the number of weighed vehicles and the relative total is increased.

NOTES:
- the number of set axles remains active until it is substituted with a new value. Therefore if the vehicles which will be weighed after this have the same number of axles, it is not necessary to reset the value.
- the value is not lost when the instrument is turned off.
- If the set value is 0 the function is disabled.

13.4 SET TOTALISATION THRESHOLD

It is possible to establish a weight interval (in between 0 and the scale capacity) for executing a weigh; outside this interval, the operation is not accepted (when the **F6** key is pressed the LCD display shows the "WEIGHT OUT OF THRESHOLD" message for a few seconds.

SET WEIGHING THRESHOLD:

- Through the **500** function, combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), it's possible to access the "thr.hi" menu (Maximum Threshold Setting): set the upper totalisation threshold and press **ENTER**.
- Through the **501** function, combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), it's possible to access the "thr.Lo" menu (Minimum Threshold Setting): set the lower totalisation threshold and press **ENTER**.

NOTES:
- By setting 0 in the maximum threshold, it's possible to totalise up to the maximum capacity of the scale.
- By setting 0 in both thresholds, the functions are disabled.
- The totalisation field is valid for all totalisation types.

13.5 REENABLING THE PRINTING AND WEIGH

After having carried out a weigh, in order to carry out a new one, the displayed weight must pass by the zero or become unstable.
This setting is made in the SETUP environment, in the **F.ModE >> rEACt.** parameter **(TECH.MAN.REF.).**
While using the indicator, one may incur in the "WEIGHT NOT PASSED BY 0 OR UNSTAB." error shown on the LCD display, this means that the function which one wants to carry out, must be reenabled (in order to avoid accidental executions).
In any case, one can also exclude this type of check: in order to do this, one should set "ALWAYS" in the **F.ModE >> totAL >> t.ModE** step **(TECH.MAN.REF.)**

13.6 VISUALISATION AND CLEARING OF THE ACCUMULATED TOTALS

Each total can be momentarily viewed on the display or cleared independently through the printout, linking the function corresponding to the desired step (**<< F.KEYS >>** step, **TECH.MAN.REF.**):

TOTAL	**FUNCTION CODE FOR VISUALISATION**	**FUNCTION CODE FOR RESETTING**
PARTIAL TOTAL	404	406
GENERAL TOTAL	407	409
GRAND TOTAL	410	412
ALL SCALE TOTAL (partial total, general total, grand total)	-	413

By recalling one of the clearing functions, the instrument requests a confirmation before proceeding with the cancellation: press ENTER to clear, C for continuing to accumulate.

It's possible to disable the confirmation request, in the **F.ModE** >> **totAL** >> **rESEt** step, **TECH.MAN.REF.**
In case of visualisation of the total, the instrument automatically exits the function after a few seconds.

NOTES:
- The weight data of the cleared total will be updated only with the subsequent totalisation.
- Clearing of the partial total provokes the instantaneous increase of the general total and grand total with the current value of the partial total.
- Clearing of the general total involves the clearing of the next totalisation of the partial total and the clearing of the weighing list.
- Clearing of the grand total involves the clearing of the next totalisation of the partial total and of the general total and also the clearing of the weighing list.

13.7 PROGRESSIVES

13.7.1 PROGRESSIVE DIGITS

Through function **401**, combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), it's possible to set the number of digits with which the TICKET PROGRESSIVE and LOT PROGRESSIVE are printed.

The number of settable digits varies from 4 to 16, organised in this way:

- if the actual digits of the total are less than the number of digits set in this step, the difference is filled with some spaces.
- if the actual digits are greater than the number of digits set in this step, only the ones actually entered are taken into consideration (counting from right to left).

The alignment of the total fields is on the left.
NOTE: The number of settable digits DOES NOT INCLUDE the comma.

13.7.2 TICKET PROGRESSIVE

Through function **402**, combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), it's possible to modify or clear the TICKET PROGRESSIVE (up to 5 digits).

The TICKET PROGRESSIVE is a progressive number which increments of one UPON THE FIRST TOTALISATION SUBSEQUENT TO THE CLEARING OF THE PARTIAL TOTAL.

13.7.3 LOT PROGRESSIVE

Through function **403**, combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), one obtains the clearing of the AUTOMATIC LOT (up to 6 digits); before carrying out the actual clearing, one is asked to confirm or cancel the operation; confirm with **ENTER.**

The AUTOMATIC LOT is a progressive number which increments of one UPON THE FIRST TOTALISATION SUBSEQUENT TO THE CLEARING OF THE GENERAL TOTAL..

14. PRINTOUTS

The instrument is fitted with 13 different print functions, which may be used while weighing, and of 30 print formats, in other words, 30 different memory storages, each of which contain a programmable printout.
The print executed by 13 of these functions depends on the print format linked to it; see the following section for the linkages.
The format linking function allows executing various printouts, by changing the linked format each time.

The available functions are:

SIMPLE PRINTOUT - Programmable printout -

Through the **F5** key one prints the linked format, **without executing the totalisation.**
With the APPROVED instrument:

- The printing works if there is a POSITIVE NET WEIGHT of at least 20 divisions (in LOADING).
- The printout is reenabled depending on how the **F.ModE** >> **rEACt** parameter has been programmed in the TECHNICAL SET-UP **(TECH.MAN.REF.).**

With the NON APPROVED instrument:

- The printing works if there is a NET WEIGHT greater than zero (in LOADING).
- The simple printout does not exclude the totalisation and is always active (the programming of the **F.ModE** >> **rEACt** parameter of the TECHNICAL SET-UP **TECH.MAN.REF.** is not taken into consideration).

WHEEL WEIGH TOTALISATION - Programmable printout -

After the totalisation of a vehicle is made with the **F6** key, the printing of the linked format is carried out.

With APPROVED instrument:

- the INPUT weigh functions with a minimum weight of 20 divisions and reactivates according to how the **F.ModE >> rEACt.** "REACTIVATIONS" parameter of the TECHNICAL SET-UP has been programmed **(RIF.MAN.T.),** in other words the weight movement or passage by zero of the weight;

With NON APPROVED instrument:

- the INPUT weigh functions with a weight greater than zero and reactivates according to how the **F.ModE >> rEACt.** "REACTIVATIONS" parameter of the TECHNICAL SET-UP **(TECH.MAN.REF.)** has been programmed;

AXLE WEIGH TOTALISATION - Programmable printout -

After a totalisation of a vehicle made with the **F6** key, the printing of the linked format is executed.
See "WHEEL WEIGH TOTALISATION" format for the functioning details with APPROVED or NON APPROVED instrument.

AXLE WEIGH TOTALISATION HEADING - Programmable printout -

If a format is linked to the " AXLE WEIGH TOTALISATION HEADING " function, the beginning of the axle weighing procedure, executed with the **F6** key, will cause the printing of this format and then the format linked to the "AXLE WEIGH TOTALISATION" function.

VEHICLE END PARTIAL TOTAL – - Programmable printout –

If a format is linked to the "_VEHICLE END PARTIAL TOTAL " function, this format will be printed at the end of the of weighing a vehicle.

LIST OF WEIGHS - Programmable printout -

To carry out this function, press the **2ndF** and **F6** keys. The 3 linked formats are printed, in other words, the printing of **all** the weighs' list. To clear the weighs' list one must reset the total general, link the 409 code to the desired key, **TECH.MAN.REF.**. The indicator shows the message SurE? on the LED display and the ZEROS TOTAL text on the LCD display; confirm with **ENTER** to clear the list of all the weighs**.**

NOTE: The indicator keeps the **LAST** 3500 totalisations in storage.

PARTIAL TOTAL - Programmable printout -

To carry out this function, link the code **405** with the desired key, **TECH.MAN.REF.**.
The PARTIAL TOTAL is printed.

GENERAL TOTAL - Programmable printout -

By pressing the **F9** key the PARTIAL TOTAL is printed and then cleared.

GRAND TOTAL - Programmable printout -

By pressing the **F10** key the PARTIAL TOTAL is printed and then cleared.

START-UP PRINTOUT - Programmable printout -

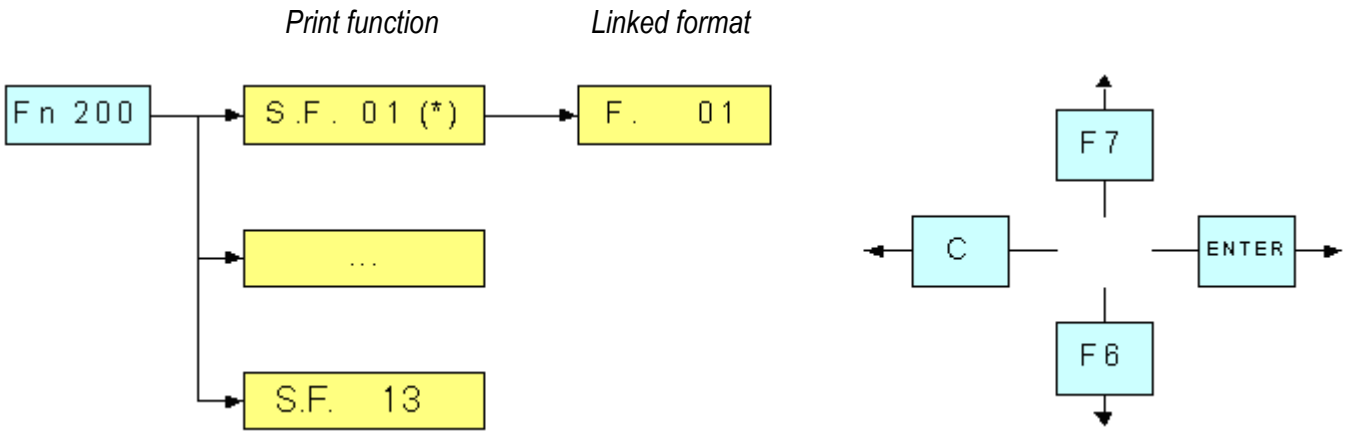
When turning on the indicator, the printout of this format is made; this function can be used, for example, to unlock the pincers of the TM295 printer (when this last is turned on the pincers are always locked).

CALCULATOR RESULT - Programmable printout -

Once terminated the operation with the "CALCULATOR" function, this format is printed. See section 15.2.

14.1 LINKING OF THE FORMATS TO THE PRINT FUNCTIONS

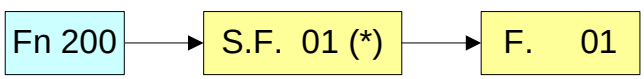
Through function **200,** combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), one accesses the linking of the print formats (configurable in the **SEtuP >> SEriAL >> Prn.FMt** step **TECH.MAN.REF.)** to the 13 programmable print functions:



Print Functions	Key	Linked step
PRINT KEY	**F5**	**S.F. 01**
PARTIAL TOTAL	Function **405**, combinable with the desired key **(<< F.KEYS >>** step, **TECH.MAN.REF.**)	**S.F. 02**
GENERAL TOTAL	**F9**	**S.F. 03**
GRAND TOTAL	**F10**	**S.F. 04**
WHEELS WEIGHS TOTALISATION	**F6**	**S.F. 05**
HEADING AXLES WEIGHS TOTALISATION	Automatic entry	**S.F. 06**
AXLES WEIGHS TOTALISATION	**F6**	**S.F. 07**
VEHICLE END PARTIAL TOTAL	Automatic entry or **F8** (see section 13.2 and 13.3 depending on the weighing mode)	**S.F. 08**
START-UP PRINTOUT	Automatic entry	**S.F. 09**
RESULT OF THE CALCULATOR	Automatic entry	**S.F. 10**
LIST OF WEIGHS	**2nd F** and **F6** sequence	**S.F. 11** (list heading for selected customer)
		S.F. 12 (single weigh selected customer)
		S.F. 13 (sector end selected customer)

TO LINK THE FORMAT:

- Recall function **200**, combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**).



- The LCD display shows:

S.F. **XX** in which:
XX indicates the number of the function (from 01 onwards) to which the print format is linked.

- Select the print function (for example S.F. 01) through the arrow keys ▲ ▼ and press the **ENTER** key.
- Once entered, the display shows:

XX in which:
XX indicates the number of the format to be linked.

- Type the format number and press **ENTER.**

NOTE: In order to no link any format to a vector one should enter the number 00.

14.2 NUMBER OF TICKET COPIES

Through function **400,** combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), any printout will be made various times depending on the number set in this step (from 1 to 5).

14.3 PRINTING OF THE HEADING

It is possible to programme from the indicator or from PC 3 alphanumeric heading lines of 24 characters each, which will be printed in the programmed mode until their cancellation or substitution.
F.ModE>> tXt.i parameter of the setup menu **(TECH.MAN.REF.)** allows to program the heading.

14.4 REPETITION OF THE LAST EXECUTED PRINTOUT

By pressing in sequence the **2nd F** and **F5** keys the last executed printout is repeated; however, it's not possible to reprint any selected databases, and the date/time will be of the copy just reprinted.
NOTE: If one wants to execute more than one printout, it's advisable to recall function **400** (see section 14.2).

14.5 DEFAULT PRINTING FORMATS

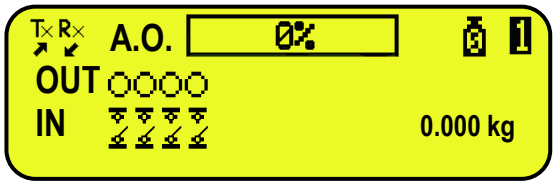
The **SEtuP >> SEriAL >> dEF.Prn** parameter of the set-up environment **(TECH.MAN.REF.)** allows to enable the default printouts for the TPR printer.
NOTE: By enabling these printouts all the formatted print formats will be CANCELLED and the first 12 will be SUBSTITUTED by the standard formats, which automatically will be linked to the 13 print functions.

15. OTHER FUNCTIONS

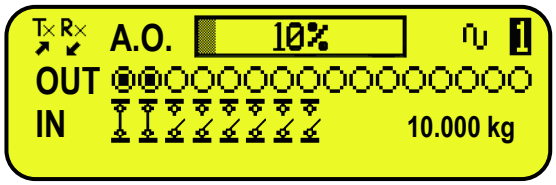
15.1 DIAGNOSTIC PERIPHERALS

Through function **118** combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), one enables the diagnostic peripherals function.
The display shows:

for 3590E version (without expansion board or the expansion board not detected)



3590E version (with expansion board)



STATUS	DESCRIPTION
ANALOGIC OUTPUT(**A.O**)	Analogic output value express in percent.
OUTPUTS **(OUT)**	Status output, non active ( ) or active ( ).
INPUTS **(IN)**	Status input, non active ( ) or active ( ).
SERIAL COMUNICATIOS **(Tx RX)**	The serial communication is active with external device.
WEIGHT	Status of the weight: - with unloaded scale; - with unstable weight;
SCALE	Number of the active scale (example 1, see section 5 SCALE SELECTION) and the relative weight loaded.

15.2 CALCULATOR

Through function **114** combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), one enables the calculator function.

- **ADDITION**
- **MULTIPLICATION**
- **SUBTRACTION**

Procedure:

- Enter the first value using the numerical keyboard.
- Press **F1** to add, **F2** to multiply, **F3** to subtract the value.

Terminate the operation:

- **TYPE** the second value and **PRESS ENTER:** the result will be shown for a few seconds on the LED display.
- **TYPE** the second value and **PRESS TARE:** the result will be shown for a few seconds on the LED display and will be added (in the addition and multiplication case) or subtracted (in the subtraction case) to the current tare value.
- **PRESS 2nd F:** the NET weight on the scale will be used as a second value and the result will be shown for a few seconds on the display.

In the end the printing of the "CALCULATOR" will be executed anyway (See section 14 **PRINTOUTS**).

To disable the calculator function, press the C key.

15.3 DISPLAY OF NET WEIGHT WITH SENSITIVITY X 10 (for testing use during calibration)

By pressing at length the **F2** key one will view the net weight with sensitivity times 10 **only in single scale weight visualisation** (press the **C** key to return to the normal visualisation).

NOTES:

- **With approved indicator, the visualisation lasts about 5 seconds, after which it's disabled.**
- **The printout can only be done when the indicator has the standard sensitivity.**

15.4SETTING DATE / TIME

By pressing at length the **F3** key 'it's possible to quickly access the setting from the date / time of the instrument:

DAY ⇒ **ENTER** ⇒ MONTH ⇒ **ENTER** ⇒ YEAR ⇒ **ENTER** ⇒ HOUR ⇒ **ENTER** ⇒ MINUTES ⇒ **ENTER.**

15.5 NET ←→ GROSS SWITCH

Only during the display of the sum of the weights, if a tare value has been entered, by pressing at length the 6 key, the displayed weight switches back and forth between the net and the gross weight.

NOTES:
With a non approved instrument:
- During the weight display conversion it is possible to execute any print function.

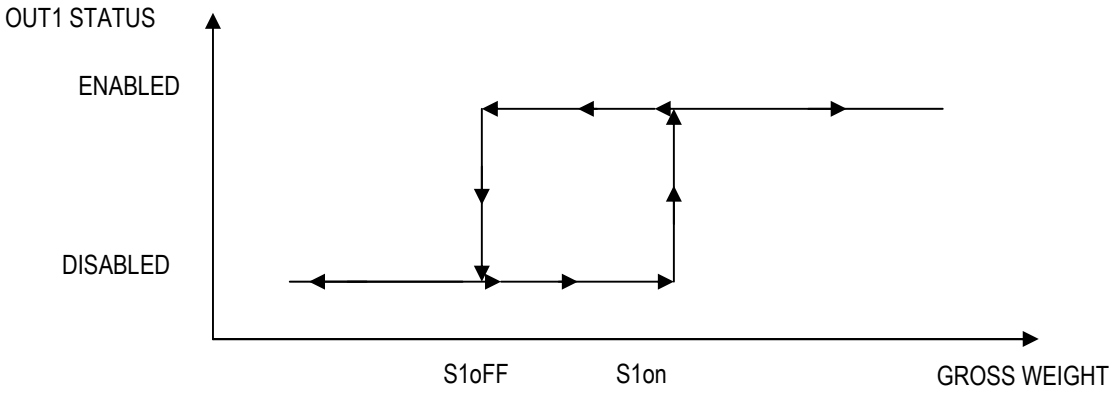
With the approved instrument:
- The weight conversion remains on the display for only 5 sec.; once this time has passed one returns to the normal weighing status.

15.6 SET-POINT FUNCTION

The indicator is fitted with a series of 4 signal outputs used for various types of operation, besides, through the I/O expansion board (optional) it is possible to use another 12.
In the **SEtuP >>outPut >> r.ConF** menu **(TECH.MAN.REF)** it is possible to set the characteristics of each output which will be used: normally open or normally closed; upon direct control or weight stability, with hysteresis or without, the functioning mode.
It is also possible to set whether the enabling of the output excludes the check on the previous outputs (see the **SEtuP >>outPut >> r.ModE** parameter).

NORMAL FUNCTIONING MODE
By setting the **SEtuP >> outPut >> r.ModE** parameter on "norMAL", one configures the independent use of the outputs:
- the check is always made on all the set outputs
- the enabling of one of these does not provoke the disabling of the others.

SETPOINT ON THE GROSS WEIGHT
Functioning with hysteresis (**rL.iSt** "HYSTERESIS" parameter set as **iSt.on**)
By selecting this functioning mode the output function on the GROSS weight is activated; one enters two SET POINTS for each output: a DISABLING one, which, when the gross weight is lower than it, disables the appropriate output; an ENABLING one, which, when the gross weight is greater or equal than it, it enables the appropriate output. Through function **202**, combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**), the SET POINT values are entered (DISABLING and ENABLING) for each configured output:
- The Led display shows " S.1 on " (relay 1 ENABLING SETPOINT): press **ENTER,** enter the weight value with the keyboard and confirm with **ENTER** (use the **C** key to quickly zero the current value).
- The LED display shows " S.1 oFF" (relay 1 DISABLING SETPOINT): press **ENTER,** enter the weight value with the keyboard and confirm with **ENTER** (use the **C** key to quickly zero the current value).
- Proceed in the same way for the following outputs (if present).
- When finished programming the set points, exit with the **C** key.



Functioning without hysteresis (**rL.iSt** "HYSTERESIS" parameter set as **iSt.oFF**)
The operating mode is the same as the previous one, except that just one SETPOINT is entered for each output (" S.1 on "); for this purpose **the access to the " S.1 oFF " parameter is inhibited**.

NOTES
- If all the outputs have the “NONE” (none) functioning mode, **the enabling of the 202 function has no effect.**
- The DISABLING SETPOINT must be less or equal to the ENABLING ones; if a value greater than the ENABLING one is entered and confirmed in the DISABLING SETPOINT, the indicator will set at 0 the set point, until a correct value is entered.
  If a value lower than the DISABLING one is entered and confirmed in the ENABLING SETPOINT, that value is accepted, but the DISABLING SETPOINT is put at 0.
- The 0 value is valid on both the set point values.
- The SETPOINT check of the weight remains active on the present value even during the modification of the SET POINT, until the new value is confirmed.
- At start-up, the relays are managed from when the weight is displayed and these take on the configuration set in the set-up environment. These are not managed inside the technical set-up.
- In case of weight not valid (local or from remote scale) all the outputs will be disabled.

SET POINT ON THE NET WEIGHT
By selecting this functioning mode, the output function on the NET weight is enabled; the entry of the SET POINTS and the specifications are the same as the functioning mode on the gross weight.

GROSS WEIGHT AT ZERO
By selecting this functioning mode, the output function on the GROSS weight at 0 is enabled.

NET WEIGHT AT ZERO
By selecting this functioning mode, the output function on the NET weight at 0 is enabled.

INSTABILITY
By selecting this functioning mode, the output function on the unstable weight is enabled.

TOTALISATION
By selecting this functioning mode, the output function is enabled after executing a single weigh or after an output weight (at the end of an input/output cycle); the output remains enabled until the weigh is restored; in other words, by the passing by zero of the net weight or by weight instability (see **F.ModE** >> **rEACt** “REACTIVATIONS” parameter of the TECHNICAL SET-UP, **TECH.MAN.REF.)**.

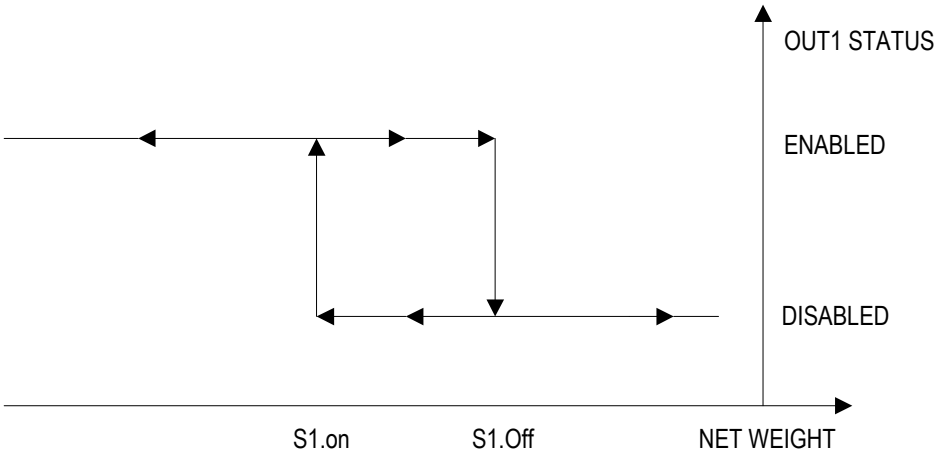
SET POINT ON THE PARTIAL TOTAL
By selecting this functioning mode, the output function is enabled on the sum between the NET weight on the scale and the accumulated net partial total; the entry of the SET POINTS and the specifications are the same as the functioning mode on the gross weight.

SET POINT ON THE GENERAL TOTAL
By selecting this functioning mode, the output function is enabled on the sum between the NET weight on the scale and the accumulated net general total; the entry of the SET POINTS and the specifications are the same as the functioning mode on the gross weight.

SET POINT ON THE GRAND TOTAL
By selecting this functioning mode, the output function is enabled on the sum between the NET weight on the scale and the accumulated net grand total; the entry of the SET POINTS and the specifications are the same as the functioning mode on the gross weight.

SETPOINT ON THE NEGATIVE NET WEIGHT

Functioning with hysteresis (**rL.iSt** "HYSTERESIS" parameter set as **iSt.on**)
By selecting this functioning mode the outputs function on the NEGATIVE NET weight is activated; one enters two NEGATIVE SET POINTS for each output: a DISABLING one, which, when the NET weight is greater than it, disables the appropriate output; an ENABLING one, which, when the NET weight is lower or equal than it, it enables the appropriate output.
The entry and specifications are the same for the functioning mode on the gross weight.



Functioning without hysteresis (**rL.iSt** "HYSTERESIS" parameter set as **iSt.oFF**)
The operating mode is the same as the previous one, except that just one SETPOINT is entered for each output (" S.1 on "); for this purpose **the access to the " S.1 oFF " parameter is inhibited.**
The entry and specifications are the same for the functioning mode on the gross weight.

EXCLUSIVE FUNCTIONING MODE
By setting the **SEtuP >> outPut >> r.ModE** parameter on "EXCLuS", one configures the exclusive use of the outputs:
- The check is made on all the set outputs starting from the last one (OUT16) to the first one (OUT1).
- When one of these is enabled the check on the previous ones is excluded.

By selecting this functioning mode and setting the set points in increasing order, one can create outputs activation ranges.

Example:

RELAY	**SETPOINT**	**ACTIVATION RANGE**
rL. 1	1.000 kg	From 1.000 to 1.999
rL. 2	2.000 kg	From 2.000 to 2.999
rL. 3	3.000 kg	From 3.000 to 3.999
rL. 4	4.000 kg	From 4.000 onwards.

In this case, if the weight reaches 2.500 kg, ONLY THE "rL. 2" OUTPUT IS ENABLED; if the weight reaches 4.500 kg, ONLY THE "rL. 4" OUTPUT IS ENABLED.

16. ALIBI MEMORY

The alibi memory allows storing the executed weighs or the weights transmitted to the PC.
The stored values can then be recalled by the PC serial line or directly on the indicator's LED display for a following check.

The data filed with each weigh or upon each weight transmission is:

- Gross weight (Sum)
- Tare
- Unit of measure
- Number of selected scale

The memorisation of a weigh takes place:

- **Following the reception of a command through the serial line,** See section 16.2.1.

- **Upon the printing made with the F6 key**
  By setting the **SEtuP >> SEriAL >> CoMPrn >> ProtoC** parameter on "Alibi" **(TECH.MAN.REF.)**

  It's possible also to transmit the string (weigh/ID) on the PC port, by setting the **SEtuP >> SEriAL >> CoMPC >> ProtoC** parameter on "Alibi" **(TECH.MAN.REF.);**
  The string is transmitted in the same format of the string received in response to the "WEIGHT VALUE REQUEST WITH WEIGH ID" command, described in section 16.2.1

The identification of the weigh takes place through the ID code; a code is given to each weigh, allowing finding the weigh in the database.
If the weight can be saved in the alibi, the numeric ID will be substituted with the message "NO".

The ID has the following format:
<Rewriting number > — < Weigh number >

- Rewriting number: number of 5 digits which may go from 0 to 00255; it indicates the number of complete rewritings of the alibi memory.
- Weigh number: number of 6 digits which may go from 0 to 131071; it indicates the weigh number in the current rewriting of the alibi memory

With each storage the weigh number is increased of 000001; when this reaches the value 131071, it restarts from 000000 and the rewriting number increases of 00001.

If the weigh can not be saved in the alibi, the numeric ID will be substituted with the message "NO".

For example:
If the weigh which has been stored is the following:
"PIDST,S, 1.000kg, 1.000kg,00126-131071"

the following will be:
"PIDST,S, 1.000kg, 1.000kg,00127-000000"

NOTE: it's possible to read the last 131071 weighs.

16.1 READING OF THE WEIGHS CARRIED OUT

Through function **414**, combinable with the desired key (**<< F.KEYS >>** step, **TECH.MAN.REF.**) it's possible to read a carried out weigh:
first enter the rewriting number of the Alibi memory (rEW.id), confirm with **ENTER**, and then enter the weigh number (id) and press **ENTER**. The ID is accepted only if valid.

If the alibi memory is empty the message "EMPTY" appears on the LCD display for a few instants; if the ID code entered is not valid, the "no id" message appears for a few instants, and then one exits the step.
By entering a valid ID code, the LCD display shows the following data, selectable through the arrow keys ▲ ▼ **:**

Ch.X in which X is the selected channel number (S= sum channel).
uM.XX in which XX is the unit of measure.
Gross weight value;
Tare weight value;
Press **C** to exit the reading state of the weighs.

NOTE: It is possible to read the weigh carried out also through the PC serial line (see the "WEIGH READING" serial command in the following section).

16.2 SERIAL COMMANDS FOR MANAGING THE ALIBI MEMORY:

!! IMPORTANT !!

If the serial commands are transmitted in the format:
<ESC> command <STX>

in which: **<ESC>** is the ASCII decimal 27 character
<STX> is the ASCII decimal 02 character

Also the relative answer will be:
<ESC> string <STX>

16.2.1 REQUEST WEIGHT VALUE WITH WEIGH ID

The command which allows saving the weight in the alibi memory and the transmission is:

<II>PID<CRLF>

< II > = machine code, only if functioning in 485
PID = saving command of the weight data in the alibi memory
CR = ASCII 13 decimal code
LF = ASCII 10 decimal code

If the gross weight is equal or greater than zero and stable, the instrument will save the weight on the belt in the alibi memory.
And the PID string (weight/id) will be transmitted on the PC port; this is described in the following section.

16.2.2 STRING FORMAT (WEIGHT/ID)

The PID string contains all the information regarding the executed weigh.

DESCRIPTION OF THE PID STRING:

<ESC>[II]PID**SS,B,LLLLLLLLLUU,YYTTTTTTTTTTUU,(ID | NO) <CR or CRLF>**

in which:		
	[II]	485 address (only in the case of 485 transmission mode)
	SS	US instable weight
		ST stable weight
		OL weight out of range (greater)
		UL weight out of range (lower)
	,	comma character, ASCII 044
	B	number of selected channel
	,	comma character, ASCII 044
	LLLLLLLLL	gross weight on 10 digits
	UU	unit of measure
	,	comma character, ASCII 044
	YY	2 spaces in the case of null tare or semiautomatic tare, PT in the case of preset tare
	TTTTTTTTTT	tare weight on 10 digits
	,	comma character, ASCII 044
	ID	XXXXX-YYYYYY or “NO”: weigh not stored in the alibi memory; the gross weight is negative or unstable.
	<CR o CRLF>	Terminator, ASCII 13 and ASCII 10 characters

16.2.3 WEIGH READING

Command:

[II]ALRDXXXXX-YYYYYY <CR o CRLF>

in which		
	[II]	485 address (only in the case of 485 transmission mode)
	XXXXX	rewriting number, from 0 up to 255.
	-	ASCII 045 character
	YYYYYY	ID code
	<CR o CRLF>	terminator, ASCII 13 and ASCII 10 characters

Instrument answer:

[II]B,LLLLLLLLLUU,YYTTTTTTTTTTUU <CR o CRLF>

in which:		
	[II]	485 address (only in the case of 485 transmission mode)
	B	number of selected channel
	LLLLLLLLL	gross weight on 10 digits
	UU	unit of measure
	YY	2 spaces in the case of null tare or semi automatic tare, PT in the case of preset tare
	TTTTTTTTTT	tare weight on 10 digits
	<CR o CRLF>	Terminator, ASCII 13 and ASCII 10 characters

16.2.4 ALIBI MEMORY CANCELLATION (only with non approved instrument)

Command:

[II]ALDL <CR o CRLF>

in which		
	[II]	485 address (only in the case of 485 transmission mode)

Instrument answer:

[II]ALDLOK <CR o CRLF>	if the cancellation has been carried out effectively
[II]ALDLNO <CR o CRLF>	if the cancellation has not been carried out effectively

17. MESSAGES

While using the indicator, it is possible to incur into the following errors:

17.1 INSIDE THE SET-UP OR MENU

MESSAGE		DESCRIPTION
LED DISPLAY	LCD DISPLAY	
	C.Er. – 8.03	When carrying out the multirange or multidivisional calibration, the ranges have not been entered in an increasing manner (RANGE 1 < RANGE 2 < RANGE 3).
	C.Er. – 36	During the calibration some internal negative points have been calculated: - the calibration point is less than the zero point. - the signal is negative (check the connections)
	C.Er. – 37	During the calibration some internal points less than the minimum value have been calculated: - the calibration point is equal to the zero point. - A capacity too high in relation to the division has been set.
Err. – 72		Calibration error: a too low sample weight has been used.
Err. – 85		Operation not allowed because the instrument has not been calibrated.
Err.Mot	**ERROR: UNSTABLE WEIGHT**	It is shown in the LED display when, during the sampling phase, the weight results to be unstable and therefore can not be acquired.
ErPnt	**ErPnt**	During the acquisition of a calibration point, a null value from the converter has been read.
SAVE ?	**EXITING SETUP: SAVE ?**	The instrument requests the saving when exiting the set-up; press **ENTER** to confirm or C to not continue.
	SURE?	The instrument requests a confirmation before proceeding: press **ENTER** to confirm or C to not continue.
	Error	Generic error. Possible motives can be: - During the multiscale or multidivisional type of calibration, ranges in increasing order have not been inserted (RANGE 1 < RANGE 2 < RANGE 3); - An error has taken place in the connection, configuration, equalisation, calibration of the cells, etc.

17.2 AT START-UP

MESSAGE		DESCRIPTION
LED DISPLAY	**LCD DISPLAY**	
Err. – 36		During the calibration some internal negative points have been calculated: - the calibration point is less than the zero point. - the signal is negative (check the connections)
Err. – 37		During the calibration some internal points less than the minimum value have been calculated: - the calibration point is equal to the zero point. - A capacity too high in relation to the division has been set.
Err. – 39 **In alternation with "no.CAL"**		The converter points are less than the instrument's internal divisions; one must execute a TECHNICAL DEFAULT (**dFLt.t** parameter of the SET-UP environment) and carefully carry out the calibration.
Err. – 39		Invalid calibration range number (there is the value 0 or values greater than 3); one must execute a TECHNICAL DEFAULT (**dFLt.t** parameter of the SET-UP environment), if not already executed previously, and carefully carry out the calibration.
Err. – 40		The value 0 is in the "range 1" parameter of the calibration; one must execute a TECHNICAL DEFAULT (**dFLt.t** parameter of the SET-UP environment) and carefully carry out the calibration.
Err. – 41		The value 0 is in the "diV 1" parameter of the calibration; one must execute a TECHNICAL DEFAULT (**dFLt.t** parameter of the SET-UP environment) and carefully carry out the calibration.
Err. – 98		Upon start-up, the indicator is waiting for the data.
hW-Err		HARDWARE ERROR: software not compatible with the installed hardware; the hardware expansion component is missing which allows the software to function.
Err.C.0Y	**SCALE X**	It is shown when there is an error in the communication with the X scale – Y cell : check the connections and communication parameters (**TECH.MAN.REF.**).

NOTE: if the Er – XX error appears after the indicator start-up; press the TARE key to enter in the SET-UP environment.

17.3 IN WEIGHING

MESSAGE		DESCRIPTION
LED DISPLAY	LCD DISPLAY	
	WEIGHT UNDER 20 DIVISIONS	It is shown in the LCD display when one tries to print or totalise with the 0 or negative weight.
	NO ZERO CROSS OR INSTABILITY	Printing or totalisation not possible without having the weight pass by the net zero or by instability.
- OFF -	***** POWER OFF *****	Turning off of the instrument through the key (see section 3.2).
- - - - -	**- OUT CAPACITY ! -**	The weight is 9 divisions above the **Maximum Capacity.**
- - - - -	**- OUT CAPACITY ! -**	Approved instrument: the weight is under the gross zero (-100 divisions). Non approved instrument: the weight is under the gross zero (- capacity – 9 divisions).
ZERO		Execution of scale zero (see section 6).
TARE		Tare execution (see section 7).
CLEAR		Tare cancellation (see section 7.4)
prn-on		Turning on printer for maintenance (see section 3.3).
GROSS		Visualisation of the gross weight.
NET		Visualisation of the net weight.
LOCK		Tare lock or enabled keyboard function.
UNLOCK		Tare lock or disabled keyboard function.
	(flashing)	Indicates that the battery is discharged (voltage at minimum level).
	PRINTER ERROR: CHECK THE CTS!	Error during the printing: totalisation not possible or print not executed / finished.
	USER - PRESS KEY	See section 12.
- - - - - -	**BX ERROR Y CELL**	It is shown when there is an error in the communication with the X scale – Y cell : check the connections and communication parameters (**TECH.MAN.REF.**).
Sum		Indicates that the weight that will be displayed is the sum weight of the active scales.

DECLARATION OF CONFORMITY

This device conforms to the essential standards and norms relative to the applicable European regulations. The Declaration of conformity is available in the web site **www.diniargeo.com**

WARRANTY

The TWO-YEAR warranty period begins on the day the instrument is delivered. It includes spare parts and labour for repairs at no charge if the INSTRUMENTS ARE RETURNED prepaid to the DEALER'S PLACE OF BUSINESS. Warranty covers all defects NOT attributable to the Customer (such as improper use) and NOT caused during transport.

If on site service is requested (or necessary), for any reason, where the instrument is used, the Customer will pay for all of the service technician's costs: travel time and expenses plus room and board (if any).

The customer pays for shipping costs (both ways), if the instrument is shipped to the DEALER or manufacturer for repair.

The WARRANTY is VOIDED if faults occur due to work done by unauthorised personnel or due to connections to equipment installed by others or incorrect connection to the power supply.

This warranty DOES NOT provide for any compensation for losses or damages, direct or indirect, incurred by the Customer due to complete or partial failure of instruments or systems sold, even during the warranty period.

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